

Remarks

Section 112

Specification

A brief description of the drawing has been added as required. Antecedent basis for the description of the two drawing figures is found respectively in the first line of each of paragraphs 0037 and 0038, reference being made to publication US 2008/0041189 A1.

Claims

Claim 11 has been amended to remove parentheses. Claims 12 and 13 have been amended to depend from claims 11 and 12, respectively, the latter claims supplying the needed antecedent basis.

Section 102

Claims 1, 3 and 12 were rejected as anticipated by Deloche et al. '431.

Reconsideration is requested.

The Deloche et al. '431 reference was derived from German priority application DE 195 215 18 C1. This German application was in fact referred to in the present specification in paragraph 0005, and also in paragraph 0010. The latter paragraph compares the claimed invention with the Deloche process as follows:

It was a surprising discovery that the described disadvantages of the process under the terms of patent specification DE 195 215 18 C1 are eliminated when hot blast with addition of fossil energy blows onto the scrap bulk from the top. The effect according to the invention is particularly advantageous when hot blast blows onto the scrap bulk from a central top position. Top blowing hot blast according to the invention surprisingly causes a gas stream in the scrap bulk, which utilizes the energy of the gases particularly well and also melts the scrap at the sidewalls in a fast and effective way. The following processes presumably occur in the scrap bulk. The hot blast jet penetrating the scrap bulk effectively heats up the surrounding scrap through gas circulation within the scrap bulk. The gases from this part of the scrap, however, are sucked in by the top blowing jet. The hot gases therefore

leave the scrap bulk through an outer ring. As a result there is intensive energy supply in this area, which also heats the scrap in the outer zone from below and facilitates the melting of this part.

Claim 1 of the instant application requires preheated oxidizing gas together with fossil fuels to be supplied to a scrap bulk "from the top". In Deloche et al., the nozzles supplying gas are mounted in the upper area of the side walls and are slanted downwardly by 10% (Column 3, line 55). Hence, the Deloche et al. nozzles supply gas nearly horizontally. Deloche et al. cannot reasonably be read to teach "from the top" as required by claim 1, nor "centrally from the top" as required by claim 2. As to the phase 2 lack of oxygen enrichment in claim 12, Deloche doesn't teach this, as the official action recognizes. Silence may be golden, but it is not anticipatory.

Since Deloche supplies gas from the side walls of the vessel and not from the top of the scrap bulk, as required by claim 1, Deloche fails to anticipate claim 1, and claim 1 is allowable. Since the remaining claims 2 – 13 are all ultimately dependent from claim 1, these claims are allowable also.

Section 103

Claims 2, 11 and 13 were rejected as unpatentable over Deloche et al. '341 as applied to claim 1 above. Regarding claim 2, which calls for the hot blast to occur centrally from the top, we have shown above that in Deloche et al., the nozzles supplying gas are mounted in the upper area of the side walls and are slanted downwardly by 10% (Column 3, line 55). Hence, the Deloche et al. nozzles supply gas nearly horizontally. Deloche et al. cannot reasonably be read to teach "centrally from the top" as required by claim 2. Moreover, as taught in the long quote above with respect to the rejection under Section 102:

The effect according to the invention is particularly advantageous when hot blast blows onto the scrap bulk from a central top position. Top blowing hot blast according to the invention surprisingly causes a gas stream in the scrap bulk, which utilizes the energy of the gases

particularly well and also melts the scrap at the sidewalls in a fast and effective way.

This surprising result is not remotely contemplated by Deloche et al. nor in any way obvious in view of this reference.

Claim 11 is dependent on claim 1 and thus should be allowable therewith. It calls not only for a hot blast from above a scrap bulk, but also for two phases, a first high hot blast velocity and a second reduced hot blast velocity. The official action finds this in Deloche et al. in the paragraph beginning at line 12 in column 3. Close reading of this teaching shows that Deloche et al. start, rather than end, at a reduced speed.

Claim 13, also dependent ultimately from claim 1 and allowable therewith, calls for particular distances. The official action admits that Deloche et al. fails to teach these distances, but without any basis in the prior art, finds these distances obvious. We respectfully observe that Section 103 speaks in terms of what the prior art actually shows. Nothing in Deloche et al. would lead one to the claimed distances in claim 13.

Claim 4 was rejected as unpatentable over Deloche et al. as applied to claim 1 and also a Japanese '116 reference. The JP '116 reference has nothing to do with a method in which a hot blast is applied from above, and is not at all helpful in supplying the deficiencies of Deloche et al.

Claims 5 and 6 were rejected as unpatentable over Deloche et al. in view of Kundrat et al. and Hirai et al. Neither of these references teach a process for improving energy supply to a scrap bulk, and neither supplies information that would be helpful to Deloche et al. Claims 5 and 6 are each dependent ultimately on claim 1, which itself should be found allowable.

Claims 7 and 8 were rejected as unpatentable over Deloche et al. in view of Stercho '102. The latter teaches electric arc furnaces exclusively. Stercho '102 does not supply any of the deficiencies of Deloche et al.

Claims 9 and 10 were rejected as unpatentable over Deloche et al. in view of Hikosaka et al. This reference has nothing to do with a method in which a hot blast is applied from above, and is not at all helpful in supplying the deficiencies of Deloche et al.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

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